

CLAIMS AMENDMENTS

1 (Currently amended). An apparatus for detecting TWA in potential cardiac patients comprising:

 a sensor adapted to sense an ECG from a patient;
 a T wave detector adapted to detect a plurality of T waves in said ECG;
 an analyzer adapted to perform at least one of a statistical test tests and a periodicity transform on characteristics of said T waves to make a decision on whether TWA are present or not; and

a template generator adapted to generate a template for said T waves based on the characteristics of a plurality of T waves;

 wherein said analyzer is adapted to determine said characteristic for a plurality of consecutive T waves to form a series, said analyzer being adapted to operate on said series ; and to perform at least one of the following statistical tests: difference in means, adjacent values, Raleigh and number of zero crossings.

wherein said T wave detector is adapted to detect at least one of the following T wave characteristics: peak value, area under the T wave, curvature, ST segment slope, and area of smaller T wave segments.

2 (Canceled)

3 (Allowed). An apparatus for detecting TWA in potential cardiac patients comprising:

 a sensor adapted to sense an ECG from a patient;
 a T wave detector adapted to detect a plurality of T waves in said ECG;
 an analyzer adapted to perform at least one of a statistical test and a periodicity transform on characteristics of said T waves to make a decision on whether TWA are present or not;
 wherein said analyzer performs both said statistical test and said periodicity transform, said analyzer including a combining element adapted to combine the results of said tests to generate said decision.

4-6 (Canceled).

7 (currently amended). The apparatus of claim 6 1 further comprising a comparator adapted to compare a current T wave to said template, and to reject said current T waves from processing if it differs substantially from said template.

8-24 (Canceled).

25 (currently amended). An apparatus for detecting TWA in potential cardiac patients

comprising:

a sensor adapted to sense an ECG from a patient;

a T wave detector adapted to detect a plurality of T waves in said ECG;

an analyzer adapted to perform at least one of the a statistical test tests and a periodicity transform on characteristics of said T waves to make a decision on whether TWA are present or not; and

a template generator adapted to generate a template for said T waves based on the characteristics of a plurality of T waves;

wherein said T wave detector is adapted to detect at least one of the following T wave characteristics: peak value, area under the T wave, curvature, ST segment slope, and area of smaller T wave segments.;

wherein said analyzer is adapted to determine said characteristic for a plurality of consecutive T waves to form a series, said analyzer being adapted to operate on said series.

26 (Canceled).

27 (Presently Amended). The apparatus of claim 26 25 further comprising a template generator adapted to generate a template for said T waves based on the characteristics of a plurality of T waves.

28 (currently amended). The apparatus of claim 27 25 further comprising a

comparator adapted to compare a current T wave to said template, and to reject said current T waves from processing if it differs substantially from said template.

29 (NEW). An apparatus for detecting TWA in potential cardiac patients comprising:

- a sensor adapted to sense an ECG from a patient;
- a T wave detector adapted to detect a plurality of T waves in said ECG;
- an analyzer adapted to perform at least one of a statistical test tests and a periodicity transform on characteristics of said T waves to make a decision on whether TWA are present or not; and
- a template generator adapted to generate a template for said T waves based on the characteristics of a plurality of T waves.

30 (NEW). The apparatus of claim 29 further comprising a comparator adapted to compare a current T wave to said template, and to reject said current T waves from processing if it differs substantially from said template.

31 (NEW). An apparatus for detecting TWA in potential cardiac patients comprising:

- a sensor adapted to sense an ECG from a patient;
- a T wave detector adapted to detect a plurality of T waves in said ECG;
- an analyzer adapted to perform at least one of a statistical test and a

periodicity transform on characteristics of said T waves to make a decision on whether TWA are present or not; and

a template generator adapted to generate a template for said T waves based on the characteristics of a plurality of T waves.

32 (NEW). The apparatus of claim 31 further comprising a comparator adapted to compare a current T wave to said template, and to reject said current T waves from processing if it differs substantially from said template.